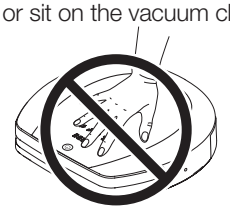
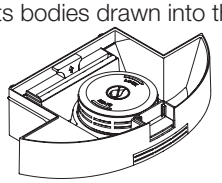
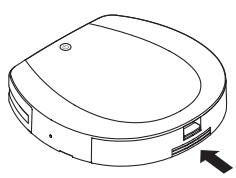
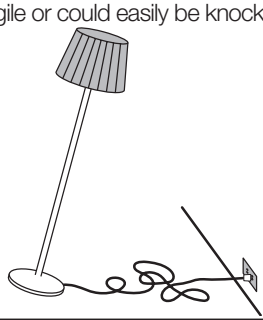
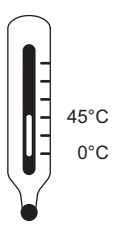
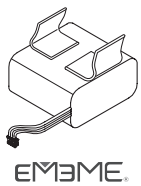
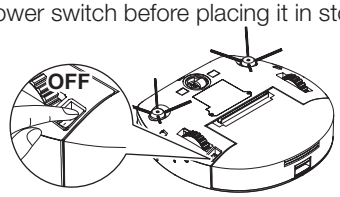
Safety Precautions >>>

Be sure to read the following product safety precautions carefully and follow the instructions to avoid hazards such as fire, electric shock and personal injury as well as to prevent damage to the vacuum robot.

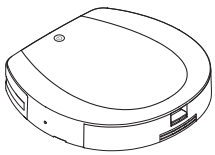
WARNING: Incorrect use of this product may result in serious injury	
Do not disassemble this product other than replacing the consumables so as not to cause damage or hazards such as electric shock.	Do not subject this product to excessive weight. Exercise extra caution if used in the presence of young children or pets at home; do not allow them to step or sit on the vacuum cleaner. 
This product is not waterproof! Users are advised not to employ it in areas that are wet, humid, or oily. Refrain from attempting to clean the main unit with any liquid.	This product is for indoor use only. To prevent its infrared sensor from being affected by sunlight, do not expose the unit to direct sunlight.

ATTENTION: Incorrect use may result in serious injury or cause damage to other items	
Before using this product, please ensure that the filter is properly installed in the dustbin so that the blower fan will not be damaged by foreign objects bodies drawn into the unit. 	For best cleaning results, prevent foreign objects from blocking the exhaust outlet. 
This product will move by itself and perform automatic cleaning. Be sure to remove or clear away any power cords, extension cords, and items that are fragile or could easily be knocked over. 	This product employs a rechargeable lithium ion battery. Please operate the unit in the temperate range of 0 – 45°C in order to ensure that the battery remains in proper working order. 

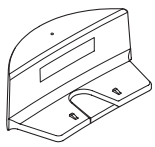
Important battery-related information: Prohibitions and charging instructions	
Do not use non-original batteries or power adapters with this product.  	Charge the battery to full capacity before using this product for the first time. Make sure that the power adapter is compatible with the electrical power specifications in your household.
If the power jack or the plug of the power adapter is loose or damaged, refrain from plugging the unit into the power outlet. 	If the battery comes into contact with water, juice, or other liquids, turn off the unit's power switch immediately and remove the battery that has been exposed to moisture.
Use the adapter in a safe environment and plug in the unit properly. Do not expose the metallic portions of the plug to avoid the risk of electric shock. 	If the product will not be used for an extended period of time, we recommend turning off the main power switch before placing it in storage. 
Do not remove and replace the battery unit. For the criteria under which the battery should be replaced and how it is done, consult the [FAQ] and [Battery installation instructions]. 	Please recycle used batteries properly to prevent pollution to the environment and violation of the Waste Disposal Act.

* If you have any questions regarding the use of this product, contact your local dealer.

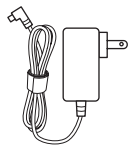
Package Contents >>>



Vacuum cleaner unit (with battery)



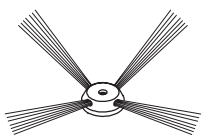
Charging base



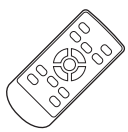
Power adapter

Cleaning brush

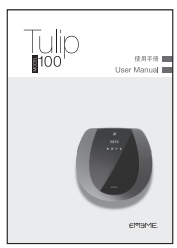
Filter



Side brush



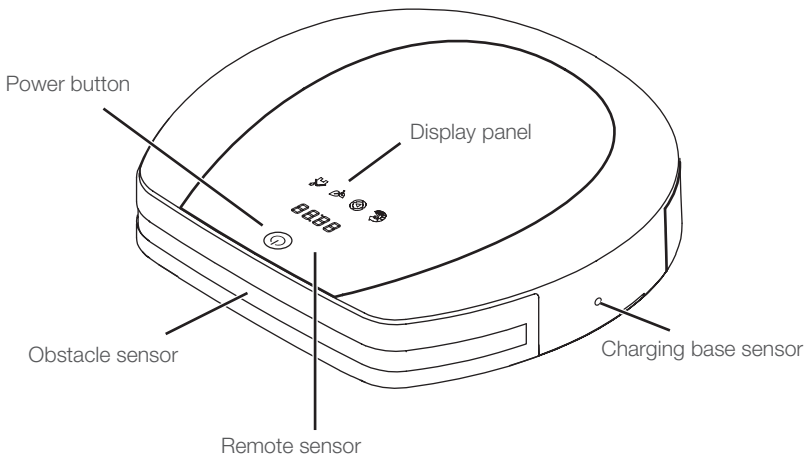
Remote control

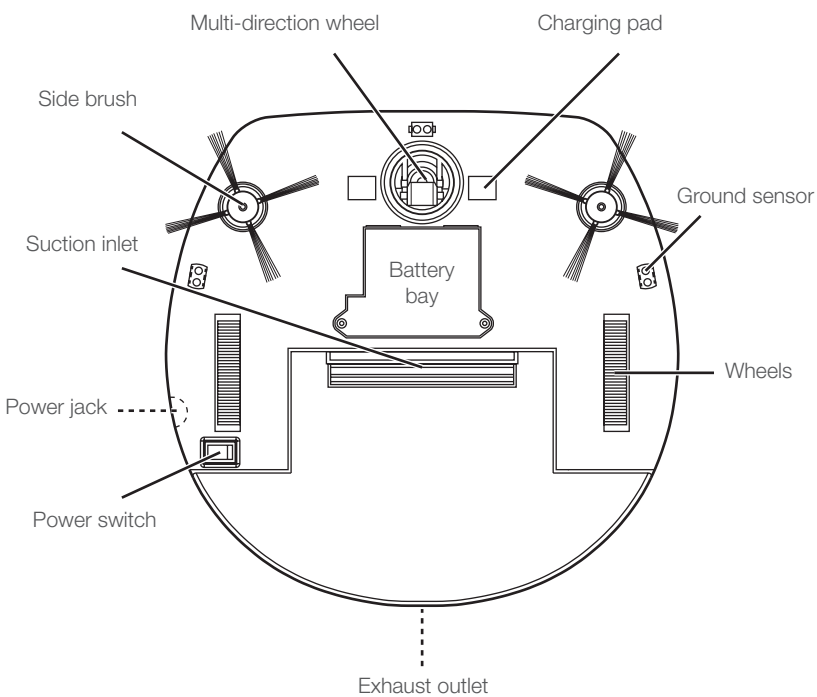


User Manual

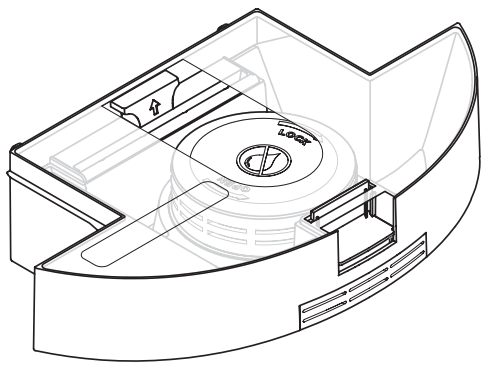
Names of Structures >>>

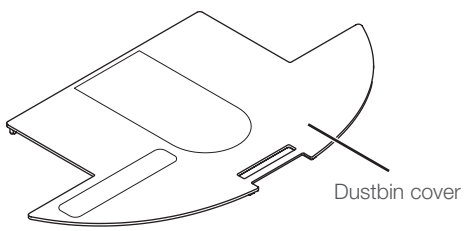
Vacuum cleaner unit

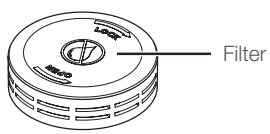


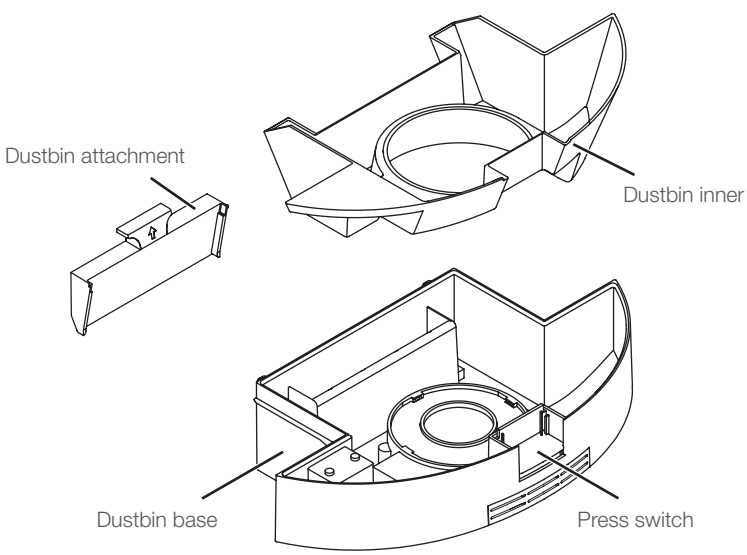


Dustbin

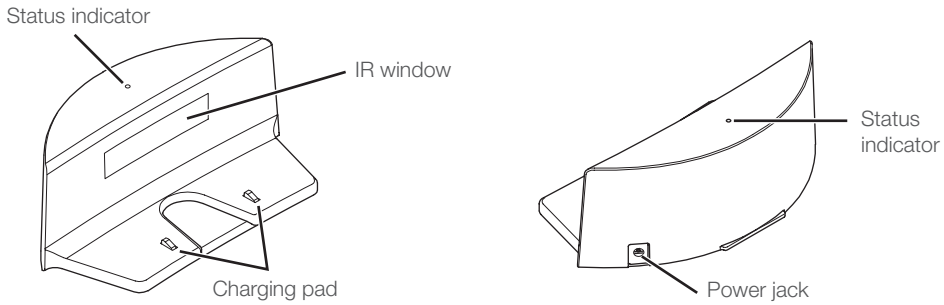



Dustbin cover

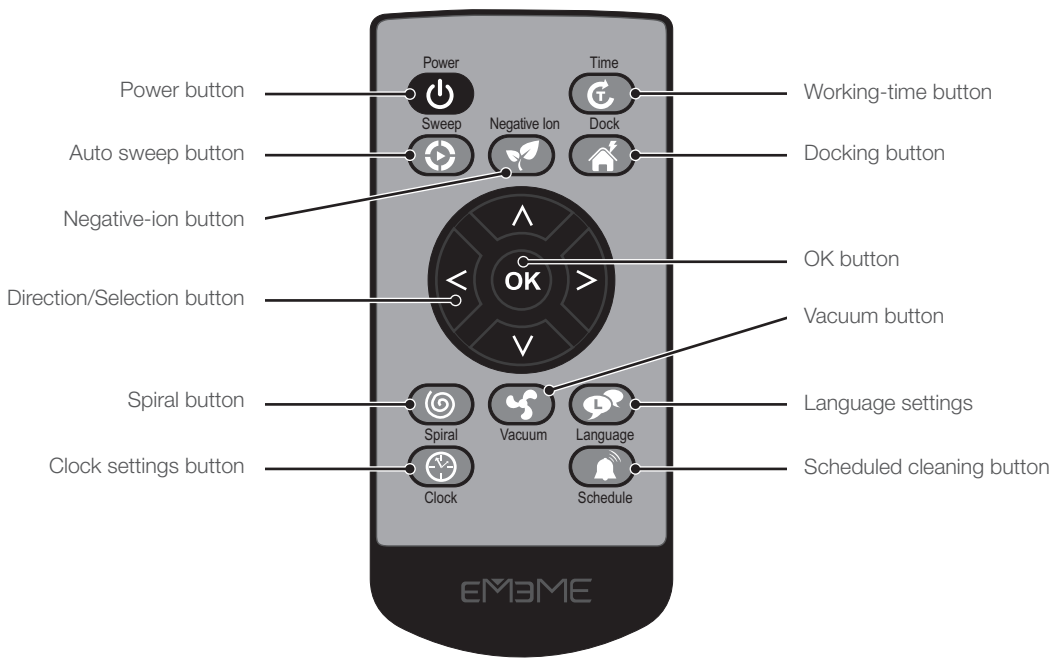

Filter


Dustbin attachment
Dustbin inner
Dustbin base
Press switch

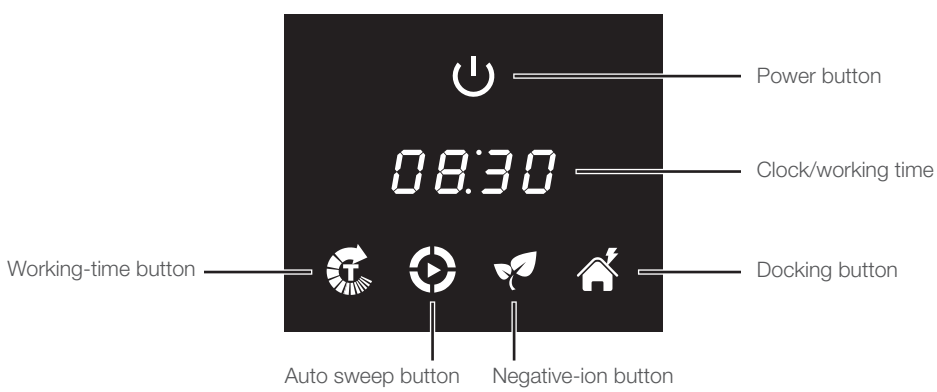
Charging base



Remote control



Panel Display

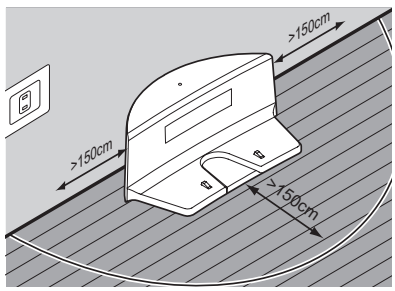


Charging the Vacuum Cleaner >>>

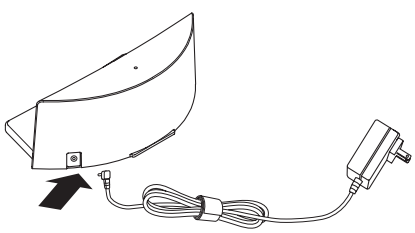
Before charging, ensure that the battery is properly installed. This unit can be charged with either the charging base or the adapter:

Charger base

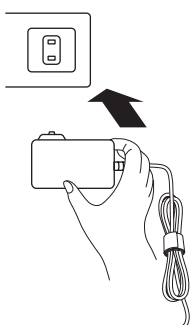
1. Place the charging base on a level surface parallel to a wall. The ideal location is at the lower right of the power outlet or immediately below it. In addition, make sure the unit is clear of all objects within a 150 cm radius.



2. Plug the DC end of power adapter into the power jack at the back of the charging base. Make sure that the wire of the power adapter is properly wrapped so that it will not interfere with the operation of the vacuum robot.

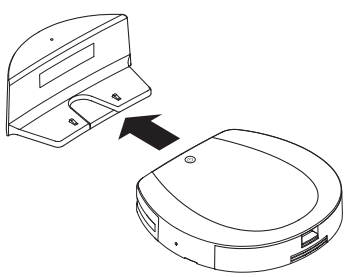


3. Insert the AC end of the power adapter into the electrical outlet.



4. **Manual charging**: Place the vacuum robot on the charging base and ensure that the charging pad at the unit's bottom is in contact with the charging pad of the charging base.

   Automatic charging: Use the button on the remote control and display panel to return the vacuum robot to the charging base automatically (the power switch must first be turned on).

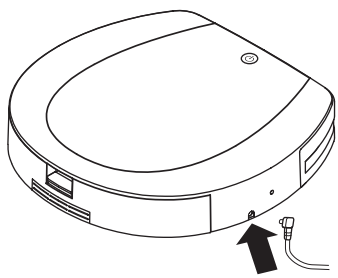


5. Make sure that the status indicator of the charging base is functioning correctly.
   Indicator is off: Make sure the power adapter is properly installed and check to see if the external power supply is working properly.
   Indicator is fully lit: Functioning correctly.
   Indicator is flashing: This indicates short-circuit. Remove the power cord and any objects near the charging base and reconnect the cord.
6. When the unit begins to play the ***Begin Charging music***, battery charging has started.

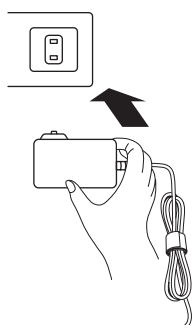
- When installing the charging base, pay attention to the scope and angle as well as the recommended clearance radius and check to see if the power adapter cable is properly bundled.
- If the vacuum robot has less than 30% of battery power during the sweeping process, it will automatically return to charging base to recharge itself.
- If the working time is set to infinite, the vacuum robot will remove itself from the charging base after a full recharge and continue to carry out its cleaning task.

Adapter charging

1. Plug the DC end of the power adapter into the power jack on the right side of the vacuum robot.



2. Insert the AC end of the power adapter into the electrical outlet.



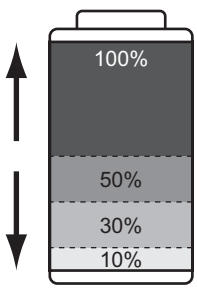
3. When the unit begins to play the ***Begin Charging music***, battery charging has started.

The unit will be charged even if the power switch is off.

Charging status indicator

The power button will flash in three differ frequencies depending on the amount of battery power remaining:

	Battery level
Indicator is fully lit: Charging complete	Battery fully charged
Flashing slowly: About once every second	Normal
Flashing rapidly: About 4 times per second	Power is nearly depleted; vacuum robot entering homing mode except for negative-ion mode Insufficient power; robot entering power-saving mode.



Operating Instructions >>>

Main display panel operations

Power button: Wake up robot from power-saving mode or cause it to enter power-saving mode.

Working-time button: Set the cleaning time of the machine. Time can be set to 15, 30, 45, 60, 80, 100 minutes, and continuous (— —).

Auto sweep button: The machine will automatically alter its sweeping manner and direction according to the terrain.

Negative-ion button: At this point, the machine is functioning as a negative-ion air purifier and will continue to clean the air and remove unpleasant or tobacco odor.

Docking button: Automatically searches for and returns to the charging base to recharge.

Remote control operations

Refer to [Main display panel operations] for instructions.

Up button: In the settings mode, this button increases the time (hour/minute). Under other modes, this button allows the machine to proceed forward.

Down button: In the settings mode, this button decreases the time (hour/minute). Under other modes, this button allows the machine to proceed backward.

Left button: In settings mode, this button changes (minute) to (hour). Under other modes, this button allows the machine to rotate toward the left.

Right button: Under other modes, this button changes (hour) to (minute). Under other modes, this button allows the machine to rotate toward the right.

OK button: Confirm the time that has been set, pre-sweep time or working time.

Spiral button: The vacuum robot will sweep the area in concentric circles from the inside out.

Vacuum button: Activate or disable the vacuum action and side brush motors. Users can use the ∧ ∨ < > buttons to move the vacuum robot around to sweep a specific area.

Language settings button: Configure the user's preferred language. Default is English; multiple languages are supported.

Clock settings button: Users can use the ∧ ∨ < > OK buttons to set the clock.

Scheduled cleaning button: Users can use the ∧ ∨ < > OK buttons to schedule the desired time for sweeping.

When pressing the ∨ button, pay special attention to the conditions of the floor behind the unit. Due to the lack of a sensor in the back of the machine, pressing and holding this button will subject thee unit from the risk of falling (stairs, etc.).

Setting the time and scheduled cleaning

▪ Setting the clock

1. Press the button on the remote control. The time display on the panel will blink to inform the user whether it is the number of hours or minutes that is being set.

2. Press the < button to set the hour and press the > button to set the minute. Press and hold the ∧ button to increase the number rapidly, or press the ∨ button to decrease it in quick succession.

3. Press the OK button to complete the clock's settings.

▪ Set the scheduled cleaning time:

* First set the start time of the sweep and then set the desired length of the task.

1. Press the button on the remote control. The time display on the panel will blink to inform the user whether it is the number of hours or minutes that is being set.

2. Set the desired point in time for the machine to begin sweeping. Refer to Step 2 in [Setting the clock] for instructions.

3. Press the OK button to complete the setting of the pre-sweep time.

4. Then decide how long you would like the machine to clean. Use the ∧ or ∨ button to select the length of working time. Options are 15, 30, 45, 60, 80 and 100 minutes.

5. Press the OK button complete the setting of working time.

In the following scenarios, the scheduled cleaning time that has been configured will not take effect:
- The user happens to be operating the vacuum robot at the scheduled time.
- The unit is currently being charged with the adapter.

Operation and Display Modes >>>

Turn on the unit by pressing the power switch. The machine will play the ***power-on music*** and enter the idle mode. The vacuum robot is now ready for use.

Idle mode:

The display panel will show the working time or an error message.

Under idle mode, the display panel will become completely dark after 10 seconds without any action taken. At this point, if the user presses the power button on the display panel, the panel will illuminate and become ready for input.

Sweep mode:

Auto SWEEP/SPIRAL:
If only the sweep button is shown on the display panel, the unit is currently in this mode.

- Under the SWEEP mode, pressing the power button on the display panel will cause the machine to cease all activities for three seconds in order to facilitate user's input. At this point, the machine will resume cleaning operation in the absence of any user input.
- Under the SPIRAL sweep state, the machine will stop immediately if it detects an obstacle.

Negative-ion mode:

If only the negative-ion button is shown on the display panel, the unit is currently in this mode.

Under the negative-ion mode, if the battery level is down to 30%, the homing mode will not be executed; the machine will continue to operate until only 10% of battery power remains, at which time it will enter the power-saving mode.

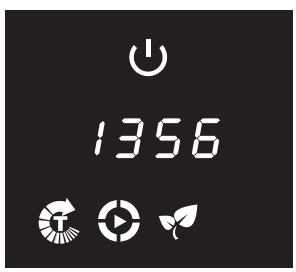
Homing mode:

If only the docking button is shown on the display panel, the unit is currently in this mode.

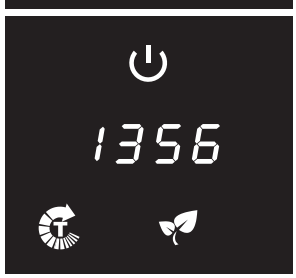
Under the homing mode, pressing the power button on the display panel will cause the machine to cease all activities for three seconds in order to facilitate user's input. At this point, the machine will continue its journey back to the charging base in the absence of any user input.

Charging mode: Refer to [Charging the Vacuum Cleaner] for details.

When using the **charging base**, the docking button on the display panel will automatically dim and be non-functional.



When using the **adapter for charging**, the SWEEP and docking button on the display panel will be automatically dimmed and be non-functional.



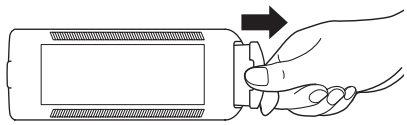
Power-saving mode: Under idle mode, the machine will enter power-saving mode automatically if one minute has elapsed without any operations, and the display panel will be completely dark. At this point, the user can press the power button on the display panel to wake the machine and return it to idle mode.

Installation and Disassembly >>>

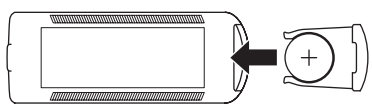
Installing the battery

▪ Battery for the remote control

1. Pull out the battery cover along the direction of the arrow shown on the diagram to the right.



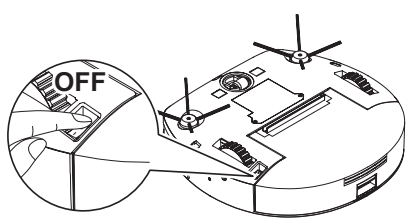
2. Remove the battery to be replaced and insert a new CR2025 lithium button cell or its equivalent. Ensure that the cell is placed with the correct polarity, as indicated by the label on the remote control.



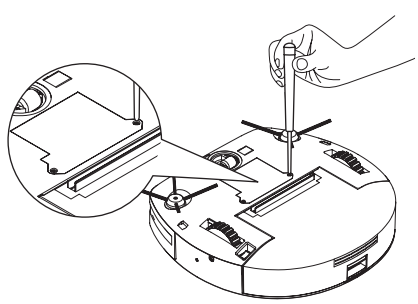
3. Push the battery cover back to its original position.

▪ Battery for the vacuum robot

1. Before replacing the battery, turn off the main power switch and remove the external power supply.

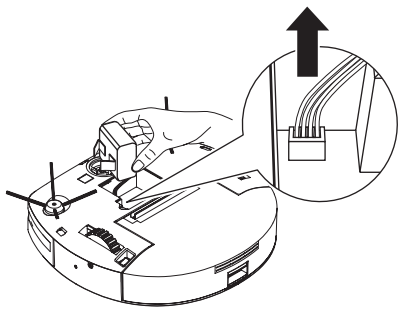


2. Use a Phillips screwdriver to loosen the two screws on the battery cover. Open the battery cover.



3. Gently pull the battery removal strap and carefully remove the cable connecting the battery to the main unit; then remove the old battery.

4. Connect the cable of the new battery to the connector on the main unit. Pull the battery removal strap gently and insert the new battery.

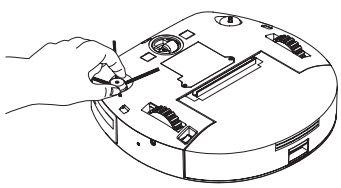


5. Make sure that the battery is placed securely in its location and replace the battery cover before tightening the two screws previously loosened.

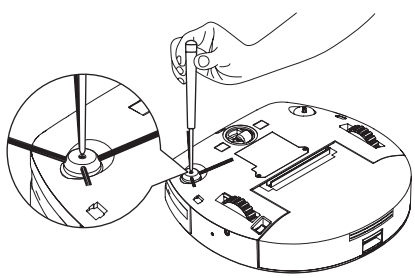
- Before replacing the battery read [Battery and charging instructions] in [Safety Precautions] carefully.
- The replaced battery should be safely disposed of at a designated recycling center in accordance with the provisions of the Waste Disposal Act.

▪ Installing the side brush

1. Place the side brush onto the brush holder on the vacuum robot unit.



2. Use a Phillips screwdriver to tighten the screw to fix the side brush in place.



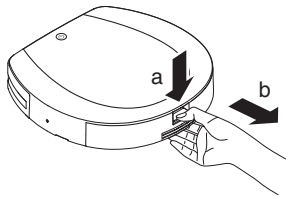
3. If it is necessary to remove the side brush, please repeat the above procedure in reverse order.

- During cleaning operation, if the machine encounters an obstacle or too much resistance while sweeping an area, the side brush motor will halt automatically. If the resistance decreases, the side brush motor will start again automatically.
- To prevent the side brush from being entangled, the machine will activate the side brush motor to rotate the brush from time to time during its journey back to the charging base.

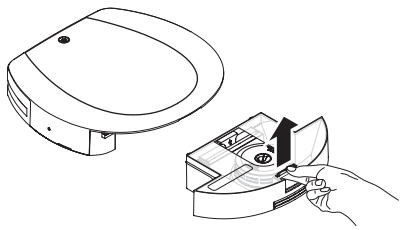
The phenomenon described above is not a defect; it is not necessary to replace the side brush.

▪ Filter installation

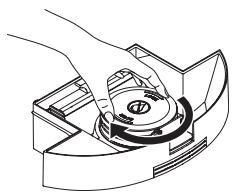
1. As shown in the diagram to the right, press the dustbin button to release the dustbin.



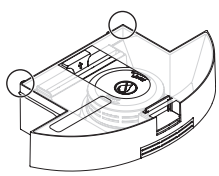
2. Remove the dustbin and open the transparent dustbin cover (simply pull it up gently).



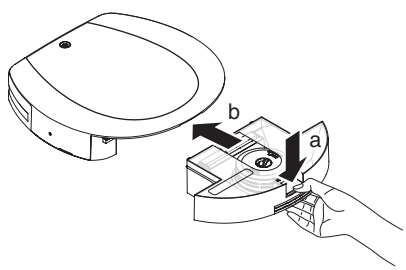
3. Place the filter on the filter holder and gently rotate it clockwise to lock it into a fixed bolt inside. If it is necessary to remove the filter, gently rotate it in the counterclockwise direction to detach it from the fixed bolt, and then put it up.



4. Align the two corners of the transparent dustbin cover with the two corners of the dustbin itself, and press gently to close the dustbin cover.



5. Press the dustbin button and push the dustbin back to the vacuum robot. Confirm that it has returned to its original position.

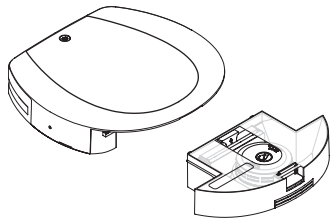


If it is necessary to replace any other consumables, be sure to halt charging and turn off the power switch.

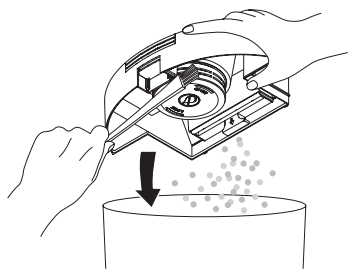
Cleaning and Maintenance >>>

Cleaning the dustbin and filter

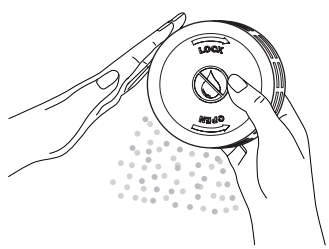
1. Remove the dustbin (refer to Steps 1 and 2 in [Filter installation]).



2. Empty the dust and debris inside the dustbin into a garbage can. A cleaning brush can be used to remove any dirt remaining in the dustbin/filter.

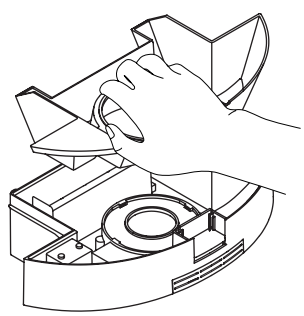


3. Refer to Step 3 of [Filter installation] and remove the filter. Remove the dust around the filter by gently tapping it.



4. Remove the dustbin inner for cleaning; use water to rinse it if necessary.

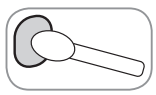
5. After cleaning, following the above instructions in reverse order to reassemble the dustbin and place it back into the vacuum robot.



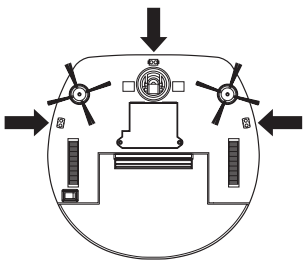
- If the filter is too soiled to be clean properly, replace it with a new one. Refrain from using water or detergent to clean the filter; failing to do so will cause damage to the filter.
- It is also prohibited from using water or detergent to clean the dustbin base; failing to do so will cause the vacuum motor to fail.
- Please replace the filter regularly according to the frequency of operating the vacuum robot in order to maintain the best cleaning quality.

Cleaning the sensors

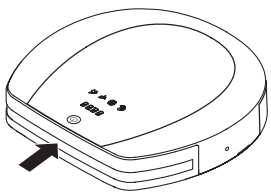
If the vacuum robot moves in an anomalous or unusual manner or is unable to execute the homing mode to return to the charging base, clean its sensors with a dry cotton swab.



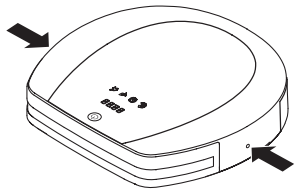
Ground sensors (3 units)



Obstacle sensor (front)



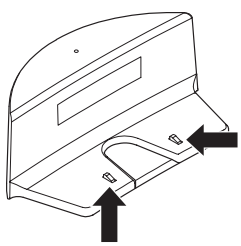
Charging base sensors (2 locations)



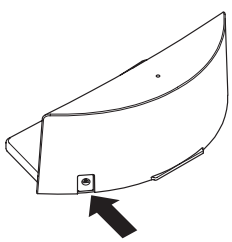
Cleaning the charging pad

If the vacuum robot is unable to return automatically to the charging base, or if the unit is unable to charge with the power adapter plugged in, use a piece of dry cloth to wipe the metal domes on the charging base and/or the vacuum robot as well as the power jack.

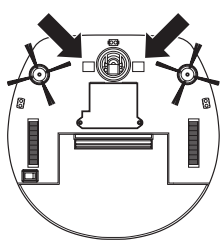
Charging base metal dome



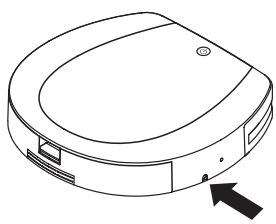
Charging base power jack



Vacuum robot metal dome



Vacuum robot power jack



- Do not use water to clean or wipe the metallic parts to prevent them from rusting.
- Refrain from using metal or sharp objects to clean the charging base or the power jack on the vacuum robot.

Troubleshooting >>>

If for any reason the vacuum robot is unable to function normally, the panel on the main unit will display the corresponding error code and an appropriate voice error message will be played so that the user will be notified of the problem. At this time the user is advised to refer to the following table for possible resolutions.

Error code	Voice message	Cause	Resolution
Err1	Please reinstall dustbin	Dustbin is not installed.	Install the dustbin.
Err2	Please place robot on the floor	Raising the machine to a specific height or suspend it in midair for an extended period of time for any reason under the sweep or homing modes.	Place the unit on the floor or put it on a new location.
Err3	Please change robot's position	The robot has determined that it has been trapped and is unable to move forward. An object may have entangled the unit, or the machine is trapped within a small confined space and unable to escape.	Check whether there are entangled wires or objects and remove them if necessary. If the unit is trapped in a narrow region, move it to another location.
Err4	Please check filter	The vacuum motor cannot be activated normally or fails to operate during the execution of a task under the sweep mode or negative-ion mode.	Check for foreign objects that may have been trapped inside the motor and caused the fan to fail; remove the offending objects accordingly. If the vacuum motor itself is malfunctioning, contact customer service.
Err5	Please check filter	The filter is too dirty or the dustbin is full.	Clean the dustbin and filter (or replace the latter if necessary).
Err6	Battery temperature error	The battery is too old, is malfunctioning or its temperature has risen to an abnormally high range.	It is possible for the battery's temperature to return to normal by itself. Turn off the power switch and turn it back on again. If the situation fails to improve, replace the battery or contact customer service.
Err7	Sensor error	A sensor or sensors on the unit have failed.	Turn off the power switch and turn it back on again. If the situation fails to improve, contact customer service.
Err8	Other error	Malfunctions or anomalies that cannot be troubleshot by the user.	Turn off the power switch and turn it back on again. If the situation fails to improve, contact customer service.
	Low Battery	Only 10% power remains.	Please recharge the unit.

- When Err4 or Err5 occurs, the machine will execute the homing mode and attempt to return to the charging base before stopping there and entering power-saving mode. The next time the user powers on the unit, it will display the last error message and voice prompt once again.
- When Err3 or Err6 occurs, in the absence of any inputs, the machine will display the last error message and play the corresponding voice prompt when the user turns on the machine again.
- When Other error occurs, the machine will stop all operations.

FAQ >>>

- For problems other than those described in the [Troubleshooting] section, turn off the main power switch and then turn it back on.
- After turning off the main power, all settings will revert to the original factory settings.

The vacuum robot fails to function properly or suffers from poor performance

1. Confirm that the power switch of the vacuum robot is indeed turned on.
2. Check display panel for any error messages.
3. Check the dustbin, filter, suction inlet and exhaust outlet for possible blockage or obstacles, or contamination with excessive dust.
4. Clean the sensor(s).
5. Check battery level.
6. Recharge of the vacuum robot.
7. Please contact customer service.

Remote control fails to work

1. Confirm that the power switch of the vacuum robot is indeed turned on.
2. Confirm that a button cell is properly installed in the remote control.
3. Aim the remote control at the display panel of the vacuum robot at an appropriate distance and repeat the operations.
4. Make sure that the button cell in the remote control has not depleted, and if so, replace it.
5. Please contact customer service.

Unable to charge the machine or unable to charge to full capacity

1. Make sure that the power cord of the charging base is properly connected to the power adapter (when in charge base charging mode).
2. Make sure that the power cord of the adapter is properly plugged into the power jack (when in adapter charging mode).
3. Replace the battery.
4. Please contact customer service.

The vacuum robot is often unable to return to the charging base automatically to recharge

1. Check to see if that the sensors on the vacuum robot are dirty, and if so, clean them.
2. Relocate the charging base so that the infrared signal receptacle is within the 7-meter detection range of the vacuum robot. Refer to [Charging the Vacuum Cleaner] for details.

Specifications >>>

Model	Tulip 100
Dimensions	35 cm (diameter) × 9 cm (height)
Weight	Approximately 2.7 kg
Battery	14.4V / 2200mAh Li-ion rechargeable battery
Charger	AC 110-240V, 50/60Hz
Dustbin capacity	0.5 liter
Moving speed	14 cm/sec.
Remote control	Infrared receiving range of up to 3 meters
Charging base	Receiving sensor range up to 7 meters
Sweep mode	Automatic environment detection